



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/536,878	05/27/2005	Jun-ichi Nishizawa	272975US2PCT	8321

22850 7590 01/07/2009  
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C.  
1940 DUKE STREET  
ALEXANDRIA, VA 22314

EXAMINER
----------

GIBSON, ROY DEAN

ART UNIT	PAPER NUMBER
----------	--------------

3739

NOTIFICATION DATE	DELIVERY MODE
-------------------	---------------

01/07/2009

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@oblon.com  
oblonpat@oblon.com  
jgardner@oblon.com

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/536,878	NISHIZAWA, JUN-ICHI	
	<b>Examiner</b>	<b>Art Unit</b>	
	Roy D. Gibson	3739	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 29 September 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 6,8-10 and 17-19 is/are allowed.
- 6) ☒ Claim(s) 1-5,7 and 11-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>5/13/2008 &amp; 5/27/05</u> .                                 | 6) <input type="checkbox"/> Other: _____                          |

***Acknowledgement of Amendment***

The Applicant's amendment filed 9/29/2008 is acknowledged.

Claims 3, 6 and 9 were previously allowed, however new grounds of rejection are provided below for these and other claims. Therefore, this Office action is made Non-Final.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 3, 4, 11, 12 and 13 are rejected under 35 U.S.C. 102(e) as being anticipated by Mross et al. (6,991,927). Mross et al. disclose an electromagnetic wave irradiation tool comprising: a narrow tube (wave guide) defined by an outside diameter of 10mm – 50microns (overlapping the claimed range of 0.1 mm - 20 mm), having including an electromagnetic wave irradiation terminal configured to irradiate an electromagnetic wave in the terahertz band having a frequency equal to a characteristic frequency of a cell of a biological body at the top of the narrow tube so as to excite the cell by the electromagnetic wave emitted from the electromagnetic wave irradiation terminal; and

Art Unit: 3739

an electromagnetic wave generation unit (soured # 8) configured to generate the electromagnetic wave and to supply the electromagnetic wave to the electromagnetic wave irradiation terminal; wherein the electromagnetic wave generation unit further comprises a frequency adjustment device configured to adjust the frequency of the electromagnetic wave being irradiated to the microorganism cell , thus capable of following a change of the characteristic frequency; and

wherein the electromagnetic wave generation unit irradiates simultaneously electromagnetic waves having different frequencies (the frequencies of the bandwidth of the beam.

Further to claims 11-13, Mross et al. disclose the electromagnetic wave irradiation tool of claim 1, wherein the electromagnetic wave generation unit generates the electromagnetic wave of one THz to 100THz (note 1 terahetz = 300 microoons).

wherein the cell is an abnormal cell, caused by parasitism of a microorganism, or by mutation (intended use only not a structural limitation); and

wherein the electromagnetic wave generation unit adjusts the frequency to a resonance frequency of the abnormal cell so as to cause selectively a resonance state of the abnormal cell, so that normal cells around the abnormal cell are not excited by the electromagnetic wave (see col. 3, line 23-col. 8, line 20, col. 11, line 30-col, 14, line 28, col. 17, line 50-col. 18, line 16 and col. 21, lines 12-44).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mross et al. Although Mross et al. fail to disclose a temperature sensor to monitor the temperature of the treated tissue, the examiner maintains that it would have been obvious to provide such a sensor which is extremely well known in the art to monitor tissue temperature and provide a feedback signal to the irradiating device to control it (adjust power or discontinue the power).

Claims 5, 7 and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nelson et al. (6,479,822). Nelson et al. disclose an antenna with supporting member and wave generating unit configured to supply a terahertz band wave which is capable of irradiating a biological body (col. 1, line 10-col. 3, line 55). Note that claims 15 and 16 recite intended use only and do not recite structural limitations.

***Allowable Subject Matter***

Claims 6, 8-10 and 17-19 are allowed.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Baillargeon et al. (6,563,852) disclose a terahertz laser source; Herman et al. (6,144,679) disclose a terahertz laser source; and Haller et al. (6,011,810) disclose a terahertz laser source. Each of these sources can inherently be combined with a wave guide with a diameter within the range of 0.1-20mm to anticipate claim 1.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Roy D. Gibson whose telephone number is 571-272-4767. The examiner can normally be reached on Tu-Th, 7:30 am-4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Linda Dvorak can be reached on 571-272-4764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3739

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Roy D. Gibson/  
Primary Examiner  
Art Unit 3739

January 4, 2008

Application/Control Number: 10/536,878  
Art Unit: 3739

Page 7